

Running head: REFERRAL COORDINATION

Referral Coordination in the Next TRICARE Contract Environment:  
A Case Study Applying Failure Mode Effects Analysis

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*Abstract*

The next iteration of TRICARE contracts will bring changes to how military treatment facilities (MTFs) conduct business concerning the referral of Prime enrolled patients to civilian contracted providers. Madigan Army Medical Center (MAMC) is forming a Referral Coordination Center (RCC) to manage these referrals in a manner most beneficial to the MTF and the patient. This project examines the RCC in light of the new TRICARE contracts, utilizing Healthcare Failure Mode Effects Analysis (HFMEA) as the analysis tool. HFMEA is normally used on mechanical or well-established healthcare processes. Application to a proposed administrative process is a new use of the tool, which shows promise in its ability to keep a process team on track in a changing environment.

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Referral Coordination in the Next TRICARE Contract  
Environment: A Case Study Applying Failure Mode Effects Analysis  
Conditions Prompting Study

The recently awarded and anticipated activation of the new TRICARE contracts prompted this study. TRICARE is a multi-billion dollar managed healthcare program serving the DoD's 8.7 million TRICARE beneficiaries. The new TRICARE contracts are a bundled group of contracts that range from marketing TRICARE, to providing basic healthcare to Prime patients in remote geographic regions. Of the TRICARE family group of contracts, the Managed Care Support Services Contracts is the largest component and is the contract referred to throughout this paper.

The new contracts bring multiple changes to the Military Healthcare System (MHS). Broad changes to the Managed Care Support contractors (MCSC) will occur as the number of contractors consolidates from 12 regions and multiple contracts into three contracts covering the North, South and West regions of the United States. With the new contracts will come changes to the business processes of individual Military Treatment Facilities (MTFs) in the areas of financing, utilization management (UM), and referral coordination.

The financial changes will create a real-time monetary effect resulting from enrollee referrals and business decisions that the MTF makes or fails to make. With the new contract, the MTF is responsible for all care provided to MTF enrolled beneficiaries, wherever they receive the care (Office of the Assistant Secretary of Defense, Health Affairs, 2002). This

change means that whenever a Prime beneficiary of an MTF receives care from a network provider, the MTF will feel the financial burden of allowing that care to be performed by the network. With the old TRICARE contracts, Bid Price Agreements imposed an 18-month delay before the military could realize savings or losses from sending beneficiaries to the network or recapturing workload into the MTF. As a result, a commander's budget was often not impacted by care location decisions until he or she had already moved on to his or her next job. With the new TRICARE contracts, MTF commanders will be allocated the purchased care funding (excluding pharmacy) to manage referrals for their active duty and CHAMPUS-eligible Prime enrollees, based on historical expenditures. These monies (which for Madigan Army Medical Center (MAMC) will be in excess of \$5 million) will go into the Commander's Operations and Maintenance (O&M) budget. When a MTF Prime beneficiary is referred to a private sector provider, the contractor will reimburse the provider and invoice the MTF monthly for these claims. Thus, hospital commanders will receive a bill whenever they send a patient to a private sector provider. If the billed service was a capability available within the MTF, the commander will essentially be paying twice for the care.

Working in correlation with this MTF financial incentive are incentives designed to motivate the MCSC to ensure the MTF is fully utilized. Prior to each contract option period, the MCSC estimates their healthcare target cost. The government reimburses the contractor for the amount of that cost, plus a

fee. If the actual healthcare costs are more or less than the proposed amount, the government agrees to underwrite the risk of gain or loss to the MCSC, sharing that risk 80/20. Therefore, if a contractor is able to provide all required healthcare for less than the proposed amount, they will receive 20% of the savings, plus their fee. See Table 1 for a hypothetical example.

Table 1.

*Contractor gain or loss based on target healthcare costs of \$800 million*

If Actual Healthcare cost is	Government Pays Contractor (\$ millions)	Net contractor Gain/Loss
\$800M (Target)	$\$800 + \$25 = \$825$	\$25M
\$750M	$\$750 + \$25 + .2(800 - 750) = \$785$	\$35M
\$700M	$\$700 + \$25 + .2(800 - 700) = \$745$	\$45M
\$750M	$\$825 + \$25 + .2(800 - 825) = \$845$	\$20M
\$950M	$\$950 + \$25 + .2(800 - 950) = \$945$	-\$5M

With this type of risk sharing agreement, the MCSC is strongly incentivized to provide healthcare in the lowest cost setting. If the local MTF is capable of providing the required care, then the MTF is the lowest cost option for the MCSC. This contractor incentive, combined with the MTF's incentive to prevent Prime patients being referred to the network, will lead the MCSC and the MTF to work closely together on referral coordination.

Further financial incentives are provided to the MCSC to protect the beneficiary against MCSC over-exuberance in the pursuit of low cost healthcare. Specifically, administrative performance incentives are available to the MCSC for beneficiary satisfaction, regional director satisfaction, and network provider satisfaction. Also, prior to the start of each new contract option period, the target network healthcare cost will be re-negotiated based on the prior period's actual amounts (Office of the Assistant Secretary of Defense, Health Affairs, 2002). In other words, if the MTF allows a lot of Prime patients to be referred out to the network this period, the contract will be renegotiated to compensate the MCSC for referrals in advance of next period.

In addition to financial changes, the new TRICARE contracts will also bring changes to the roles and services provided in the area of utilization management (UM). Current TRICARE contracts call for preauthorization of all Prime specialty care performed outside the MTF and concurrent review of MCSC admissions to the network (TRICARE, 2002). Specific qualifications of UM staff to accomplish these duties are specified in the contract. The new TRICARE contracts will contain limited requirements for medical necessity reviews or government-mandated UM criteria or procedures.

The contract calls for "Best Value" in accordance with law and regulation. Best Value is defined in the TRICARE contract solicitation as "the delivery of high quality clinical and other related services in the most economical manner for the

MHS that optimizes the direct care system while delivering the highest level of customer service" (Office of the Assistant Secretary of Defense, Health Affairs, 2002). This ruling will allow contractors to implement current industry best practices to manage and report utilization of services. The primary law and regulation referred to is 32 Code of Federal Regulation (CFR) 199.4. In this regulation, UM practices regarding inpatient hospital services, except for mental health or Skilled Nursing Facilities, are broadly stated. The 32 only CFR specifies that inpatient services be, "at the appropriate level required to provide the medically necessary treatment" (Federal Register, 2003).

This generic UM statement gives the MCSC room to interpret and implement "Best Value". It is anticipated that contractors will employ whatever UM actions will satisfy the beneficiaries, while maximizing financial incentives written into the new contracts that favor those actions.

#### Statement of the Problem

Currently at MAMC, referral coordination functions are decentralized to at least 13 offices. Plans have been made to consolidate several of these offices and their functions into a single referral coordination center. Given the large number of offices currently performing referral coordination, the need was identified for a study that will enable MAMC leadership to clearly visualize their referral process and design procedures that maximize utilization of in-house capabilities, while

meeting Madigan's responsibilities under the new TRICARE contracts.

The theoretical framework guiding this study is that referral coordination is the link between utilization management and the MTF's finances. In the pending contract environment, the goal of the MTF will be to minimize the occurrence of MTF Prime patients receiving care in the network, an event known in the contract as "leakage". The referring of a MTF Prime beneficiary to a network provider when the care could have been provided in-house is an anticipatable, recurring, adverse event that needs to be proactively minimized by process. It can have a negative impact on the finances of this MTF and is not in line with the Commanding General's vision of improved patient access and higher hospital volume (Dunn, 2002).

Medical centers continually look for efficiencies in how to conduct their daily business. New processes are crafted and implemented in the hopes of creating competitive advantage. Different analysis tools are utilized in attempts to evaluate the functionality of a new process in its design phase, thus avoiding costly implementation of an unsuccessful process. Medical centers in complex multi-service markets such as MAMC need near real time ability to track, trend and coordinate patient referrals to network providers. Visibility over these processes will give hospital leadership the decision support tools to maximize their MTF utilization and finances. Finances and efficiency are not the only goals, however. Optimal patient

care and satisfaction are parts of MAMC and are well summed up in MAMC's motto, "Care With Compassion".

#### Literature Review

The purpose of UM is to achieve the best patient outcomes with the most appropriate resources. The objectives of UM, according to the DoD UM policy of 1994, are to minimize or eliminate inappropriate level of care, inappropriate admissions, inappropriate stays (i.e. specialty units and/or total stays), inappropriate procedures, and inappropriate discharges (DoD, 1994). Major UM tools are preadmission review, concurrent review, retrospective review, discharge planning, provider profiling, and case management (Croegaert, Azcueta, & Witkin, 1995; Kongstvedt, 2001). Early UM efforts sought to minimize inappropriate variations in medical practice. (McPherson, Wennberg, Hovind, & Clifford, 1982; Chassin, 1997) Studies found that in some regions a particular surgery was more prevalent or follow-up visits more frequent than in other regions; apparently due to physician preference rather than medical need (Wennberg & Caper, 1982; Fisher, Wennberg, Stukel, & Sharp, 1994). It was also found that a market with a lot of hospital beds and physicians per 1000 lives served tended to have higher admission rates than markets with fewer beds (Moore, 1998). These studies suggest that financial incentives on behalf of the hospital and physicians may play some role in medical decision-making, causing a rise in healthcare costs to consumers.

As healthcare expenditures grew during the 1970's and through the 1980's, major cost containment efforts such as diagnostic related groups (DRGs) and capitated health plans such as health maintenance organizations (HMOs) also grew (Payne, 1987). Precertification or prior review was increasingly used to force provider adherence to the most cost effective practice styles (Tischler, 1990). This UM tool was very effective in reducing healthcare costs (Kongstvedt, 2001), especially in the area of inpatient admissions (Laditka & Laditka, 2001) where it was shown to reduce community hospital bed use by up to 18% (Schwartz & Mendelson, 1991).

Although it is effective, precertification is distasteful to patients and physicians. Backlash to managed care efforts became apparent in the 1990's as UM met many of its early goals and became more aggressive in controlling costs (Golash, 2001). Public perception of managed care began to degrade as barriers to access became more evident (Reschovsky & Kemper, 1999). Public fear mounted that medical care would not be provided to them in the future, despite how well their Managed Care Organization (MCO) was performing today (Blendon et al. 1998). This concern led consumers to push for higher quality in their health plans, and politicians to pass laws regulating MCOs (Dudley & Luft, 2001; Miller, 1997). Physicians associated a reduction in admission rates and hospital days in relation to past practices as a reduction in quality (Becker, 1990). Physician groups strove to strengthen their control over the business end of medical practice while rising consumerism pushed

patients back toward fee for service styles of healthcare and away from plans that heavily used precertification (Lesser, Ginsburg, & Devers, 2003). Physicians began to declare the end of managed care (Robinson, 2001).

Despite the call for its demise, managed care with UM is too cost effective to go away. As the cost of healthcare rises, consumers increasingly choose healthcare plans based on price (Legnini, Rosenberg, Perry, & Robertson, 2000). Managed care does reduce costs (Backus, Morton, Bacchetti, & Baker, 2002). Physicians with contracts that make them financially at risk for unnecessary admissions are supportive of disease management (Kerr, Mittman, & Hays, 1995) and recognize its value in enforcing professional standards (Schlesinger, Gray, & Perreira, 1997).

Still, consumers and physicians dislike advance approval to the point of switching from plans that use it (Kerr, Hays, Mitchinson, Lee, & Siu, 1999). As a result, few MCOs still use precertification as a means of cost control. Instead, they make extensive use of concurrent and retrospective review to identify financial and utilization spikes for specific specialties. When identified, these specialties will become the focus of intensive UM analysis and control until the financial spike is reduced (Felt-Lisk & Mays, 2002). In other words, UM tactics have shifted from precertification to retrospective review with follow-on disease management of high cost conditions and patients.

Literature review of referrals and referral coordination reveals that approximately one in 20 family practice visits results in a referral to a specialist (Forrest et al., 2002). Most referrals are made during office visits but some result from telephone consults or are made by office staff with no physician input (Forrest et al., 2002). Referrals are made for both medical and non-medical reasons and approximately one in three could be avoided if generalists were given additional training or provided with informal communication routes to a specialist (Donohoe et al. 1999). Despite public concerns with precertification, the literature suggests that HMOs and the use of gatekeepers do not restrict patient access to specialty physicians (Voyce, Kapur, Van Vorst, & Escarce, 2000; Ferris, Chang, Blumenthal, & Pearson, 2001). On the contrary, patients with a gatekeeper were more likely to be referred to a specialist than patients with traditional indemnity insurance plans (Forrest et al., 2003; Forrest & Reid, 1997).

The literature supports the use of a formal referral coordination center to manage referral flow. Clinics that manage the referrals of their patient population generated revenue through appointment management beyond the administrative cost of doing so (Dang, Baker, & Lipschitz, 2002). A dedicated referral coordination center can create other cost savings for their HMO and increased patient satisfaction by ensuring that copies of previously done diagnostic tests and histories are available when a patient is referred to a specialist (Mold & Stein, 1986). Formalizing referral relationships between

clinics can improve efficiency and increase patient satisfaction with the referral process (Murray, 2002). Patient non-compliance with referrals can be as high as 80%, particularly if the appointment lag time is greater than four weeks (Jones, Sisson, Kurbasic, Thomas, & Badgett, 1997). A referral coordination center can help improve appointment compliance rates (Forrest et al., 2002).

The development of Failure Mode and Effects Analysis (FMEA) process is accredited to the United States Military (Haviland Consulting Group, 2003). MIL-STD-1629, *Procedures for Performing a Failure Mode, Effects and Criticality Analysis* is dated November 9, 1949 is the title of the first military regulation on the subject. This document described the requirements for conducting FMEA on system and equipment failures and defined the terms and acronyms associated with the process, many of which are still used today. MIL-STD-1629 underwent several revisions to make it specifically applicable to ship, air and spacecraft construction such as MIL-STD-785, *Reliability Program for Systems and Equipment Development and Production*, and MIL-STD-1543, *Reliability Program Requirements for Space and Launch Vehicles*.

None of these military standards however, contain consumer or commercial priorities such as customer satisfaction and employee safety. Therefore, while the military documents and processes were mimicked by civilian manufacturers, they eventually became outdated and outpaced. MIL-STD-1629 was

cancelled effective 4 August 1998 (DoD, 1998) and the others soon followed.

The idea that a FEMA study can lead to product quality was not cancelled with the stopping of the MILs. The concept merged in the civilian sector with the study of standardization that began in the electricity field with the International Electrotechnical Commission (IEC) being established in 1906 (ISO, 2003). The value and recognition of the IEC grew and in 1946, delegates from 25 countries met in London and decided to create a new international organization, of which the object would be "to facilitate the international coordination and unification of industrial standards". The new organization, the International Organization for Standardization (ISO) officially began operations on 23 February 1947 (ISO, 2003). In 1988, ISO issued the ISO 9000 series of business management standards. These standards are focused on quality management and customer satisfaction and are based on FMEA (Haviland Consulting Group, 2003). Like the original MIL-STD-1629, ISO 9000 was modified to fit specific situations and industries and in 1994, the DaimlerChrysler Corporation, Ford Motor Company, and General Motors Corporation joined together to create Quality System Requirements (QS-9000). QS-9000 is based on the 1994 edition of ISO 9001, and it contains additional requirements that are particular to the automotive industry. QS-9000 applies to suppliers of production materials, production and service parts, heat treating, painting and plating and other finishing services (ASQ, 2003). QS-9000 requires the above suppliers to use

Advanced Product Quality Planning (APQP). APQP standards provide a structured method of defining and establishing the steps necessary to assure that a product satisfies the customer's requirements. These steps match what is called FMEA today (Haviland Consulting Group, 2003). FMEAs have continued to evolve and adapt to specific stages of the manufacturing process. In the automotive industry there are now five distinct FMEA types: the Machinery FMEA, which is used to analyze low-volume, customizable machinery; the Concept FMEA, which is used to analyze early stage concepts for systems and subsystems; the System FMEA, which is used to analyze proposed systems; the Design FMEA, which is used to analyze products such as high-volume tools and machines before they are released to production; and the Process FMEA, which is used to analyze manufacturing and assembly processes (Cayman Business Systems, 2004).

A review of the dynamics of human or system error and system quality is appropriate in a discussion of FMEA, as FMEA is designed to control errors and improve quality. It can be argued that the concept of errors has been studied since antiquity. Plutarch is credited for saying in *Morals--Against Colotes the Epicurean*, "For to err in opinion, though it be not the part of wise men, it is at least human" (Plutarch, AD 110). Of the 5 definitions for error given in Merriam-Webster's Collegiate Dictionary, the third one listed "an act that through ignorance, deficiency, or accident departs from or fails to achieve what should be done" (Mish et al., 2000), seems to most

closely describe medical-system errors. Similarly, as Green (2003) puts it, "an error is a failure to perform an intended action which was correct given the circumstances". When the error results in injury, then the question of professional liability or negligence can arise. This often can lead to accusations and end with actions designed to reprimand the guilty (Feldman & Roblin, 1997). According to Rasmussen (1990), while it is perhaps human nature to pursue this approach to finding causes for error, in many of today's large-scale, complex systems it is more important to examine accidents in terms of flaws inherent in the system itself. Like Rasmussen, Reason (2000) says that organizations contain latent weaknesses that harbor or nurture errors that are caused when some trigger event occurs. Reason explains this weakness with the following Swiss cheese model.

Defenses, barriers, and safeguards occupy a key position in the system approach. High technology systems have many defensive layers: some are engineered (alarms, physical barriers, automatic shutdowns, etc), others rely on people (surgeons, anesthetists, pilots, control room operators, etc), and yet others depend on procedures and administrative controls. Their function is to protect potential victims and assets from local hazards. Mostly they do this very effectively, but there are always weaknesses.

In an ideal world each defensive layer would be intact. In reality, however, they are more like slices of Swiss

cheese, having many holes—though unlike in the cheese, these holes are continually opening, shutting, and shifting their location. The presence of holes in any one “slice” does not normally cause a bad outcome. Usually, this can happen only when the holes in many layers momentarily line up to permit a trajectory of accident opportunity—bringing hazards into damaging contact with victims (Reason, 2000, p.769) .

Rasmussen (1990) stresses that actual accidents should not be examined in themselves too carefully because they are only a symptom and an example of an entire ensemble of things that could have happened. The idea is that in complex systems such as hospitals, there is always a system or process that allows or even contributes to errors becoming adverse events (Feldman & Roblin, 1997). Chassin and Becher (2002) concur when describing how surgical procedures are performed on the wrong patient stating, “No single error caused this adverse event; there is no reason to expect that punishing individuals would reduce the likelihood of recurrence.” This is in keeping with many of Deming’s principles of quality improvement, notably Principle 8: Drive out fear, so that everyone may work effectively for the company (Deming, 1986). Fletcher (1997) points out that in healthcare systems weakness and errors develop when professionals focus only on their own jobs, passing responsibility from one department to the next.

Recently, the Institute of Medicine (IOM) published significant reports of errors occurring in U.S. hospitals. The IOM (2000) stated that "health care is a decade or more behind other high risk industries in its attention to ensuring basic safety". In other words, health care has not been examining the causes and prevention of system failure modes. However, the IOM was not the first to notice that other industries were ahead of healthcare on this matter. In 1997, the Joint Commission on Accreditation of Healthcare Organizations (JCAHO) promoted the adaptation of failure mode analysis from other industries to healthcare in its journal on quality improvement (Feldman & Roblin, 1997). JCAHO went on to publish Standard LD.5.2, "Leaders ensure that an ongoing, proactive program for identifying risks to patient safety and reducing medical/health care errors is defined and implemented", effective 1 July 2001 and proposed that FMEA be used to satisfy this standard (JCAHO, 2001). In a similar fashion, the FDA had been strongly advising the use of "design controls" during the development of new medical devices since 1987. Toward this end the FDA revised the Medical Device Good Manufacturing Practices Regulation, 21 CFR 820, which took effect on June 1, 1997. In this act, section 820.30, the FDA called for design validation, including software validation and risk analysis (FDA, 2003). The risk analysis requirement is accomplished by applying FMEA.

Many healthcare quality professionals will note the similarities between FEMA and Root Cause Analysis (RCA). Like RCA, FEMA uses interdisciplinary teams, flow-diagrams,

brainstorming, scoring, and measuring. Unlike RCA, which is carried out retrospectively in response to a sentinel event, FMEA is a proactive process that acknowledges that errors are inevitable and also predictable. The flowcharts in FMEA focus on process vulnerabilities rather than on the chronological events of a past accident. FMEA includes error detectability and criticality in its evaluation. It anticipates and designs a system to minimize the impact of the most critical errors (Rich, Burkhardt, Proulx, & Cohen, 2001). FMEA strives to answer three questions concerning a process: What incorrect actions could people do? What would be the result of those actions? And, how can we prevent those actions from being completed? (Green, 2003).

There are many variations of FMEA being applied to healthcare. One variation, Healthcare Failure Mode Effects Analysis™ (HFMEA), was designed and trademarked by the Veterans Administration (VA) National Center for Patient Safety. HFMEA is used by Patient Safety offices DoD/VA wide and in many civilian facilities to evaluate a process' ability to avoid an anticipated adverse event. The United States Army Medical Command (MEDCOM) Quality Management Office has adopted HFMEA to satisfy JCAHO standard PI.3.20, "Leaders ensure that an ongoing, proactive program for identifying risks to patient safety and reducing medical/health care errors is defined and implemented", formerly known as LD.5.2 (Quality Management Office, 2003). HFMEA deviates from traditional FMEA by modifying the definitions of severity, occurrence, and detectability; terms

that are used to classify potential failure modes. The VA made this deviation because it found that when traditional FMEA is used on healthcare processes, the severity of a potential failure was always given the maximum value (failure could cause death or injury) because patient injury could always result when a healthcare process fails (DeRosier, Stalhandske, Bagian, & Nudell, 2002). HFMEA also streamlines the hazard analysis steps found in the traditional FMEA by replacing most of that step with an algorithm presented as a Decision Tree (DeRosier et al. 2002).

#### Purpose

My purpose is to analyze the capabilities of the proposed Referral Coordination Center (RCC) that is to be built at MAMC, utilizing FMEA as the analysis tool. At MAMC there are currently at least thirteen separate offices that perform a piece of referral coordination, as displayed in figure 1 below. Within the functions of these offices are the study variables of: patient beneficiary type, where the referral originated, specialty referred to, time frame, clinic capacity and capability, and information sharing process. The TRICARE Northwest Lead Agent office has developed a proposed structure (see figure 2) for a Referral Coordination office to form under the auspices of the Western Region Medical Command (WRMC), Puget Sound Market Manager (PSMM). Utilizing HFMEA, functional or formative excess or shortcomings will be identified and brought to the attention of hospital command for the purpose of maximizing efficiency and effectiveness in referral

coordination. An assessment of the utility of HFMEA applied to an administrative healthcare process is also evaluated.

Office	Function	Oversight
Clinics	Attempt to appoint all patients that could not be appointed by the TRICARE Regional Appointing Center (TRAC)	Clinical Support Division
Clinical Support Division	Clinic template approval	Deputy Commander for Clinical Services
MCSC Healthcare finder	Ensure MAMC has right of first refusal. Issue authorization to network providers	Contracting
Medical Social Work	Manage immediate referral needs of inpatients aged > 65	Social Work
TRAC	Patient appointing, directing patients to healthcare finder if no appointment within access standards	Contracting
Health Benefits Adviser	Advises patients on appointing issues, serves as intermediary	Deputy Commander for Clinical Services
Informatics	Manages CHCS, ICDB, and EWRAS consult and referral issues	Chief of Staff
Referral Coordination Center	Manages patients who are being referred to MAMC from other facilities within the WRMC	Clinic Support Division
Health Outcomes Management	Manages MTF Prime and Tricare Senior Prime patients who are being referred from MAMC to the network	Outcomes Management/MCSC
Lead Agent	Obtains leakage reports from MCSC	Market Manager
Program Analysis and Evaluation	Obtain reports from TRAC. Track expenditures for patient care in network	Resource Management Division
Navy Liaison	Assist Naval patients to access MAMC	Navy Hospital, Bremerton

Figure 1. Current key players in referral coordination.

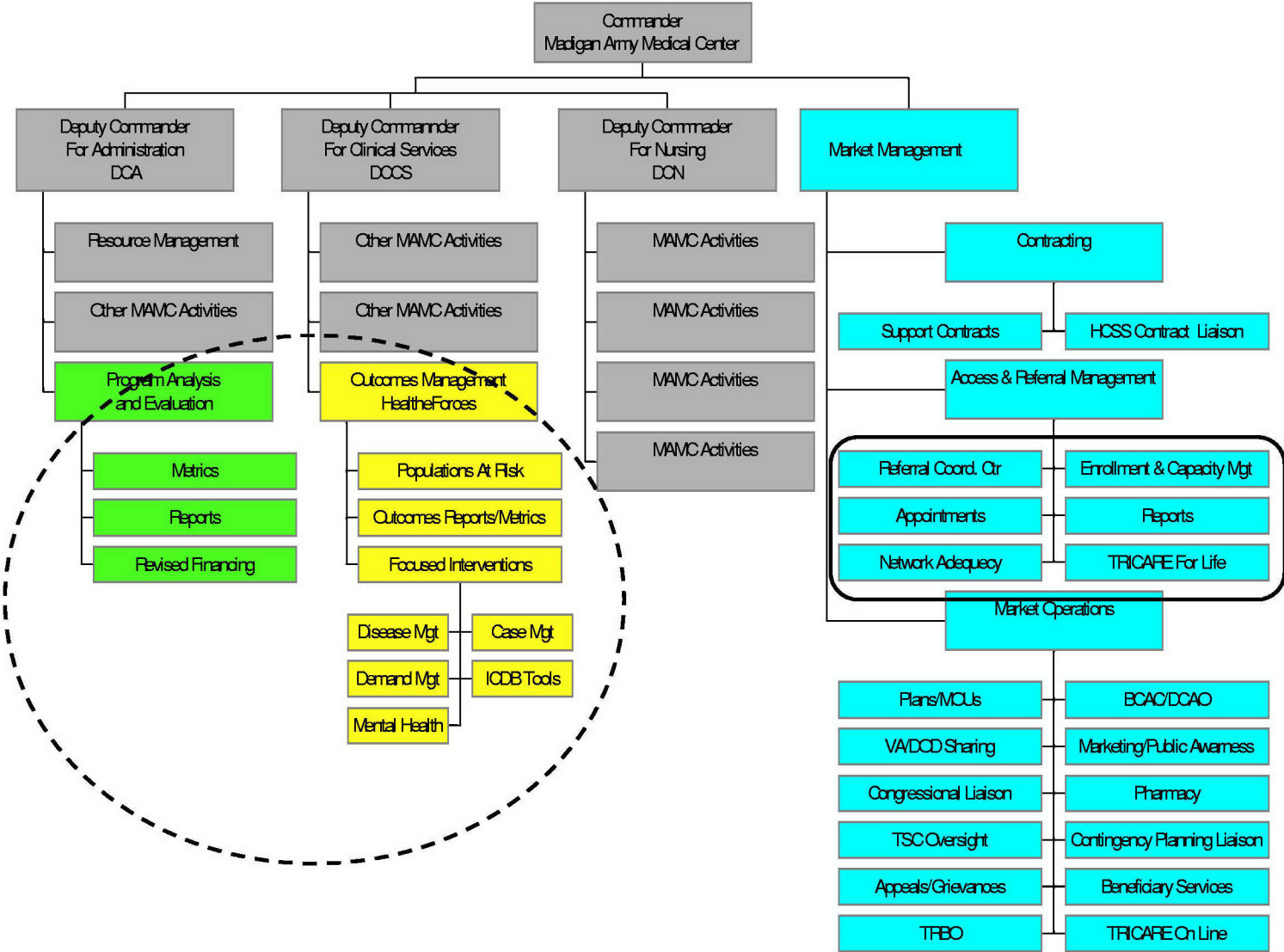


Figure 2. Proposed referral coordination center line diagram.  
Proposed Referral Coordination cell circled in solid line.  
Associated functions circled in dashed line.

## Method and Procedure

This was a case study examining the Referral Coordination Center using HFMEA as an analysis tool. The study was two-phased. The first phase was to compare and contrast the requirements for UM and referral management under the new TRICARE contract with the current contract requirements. The purpose of this comparison was to reveal what the MTF can expect the new MCSC will provide in the way of UM and referral management. As the new contract is not as detailed as the old in UM, any shortfalls or deletions discovered will have to be addressed by the MTF and considered in the design of the referral coordination activities. Once this comparison was completed, the second (and primary) phase was examining the ability of the referral coordination center to prevent unwanted referrals out of the MTF.

The focus of the study was that of referral coordination for beneficiaries who are enrolled as Prime to the MTF and the functioning of various offices, departments and employees that are identified in Figure 1 and Figure 2. It should be noted that TRICARE Plus beneficiaries are included in the study, even though they do not fall under revised financing. By definition, TRICARE Plus beneficiaries are Medicare and TRICARE For Life eligible and, therefore, the MTF is not responsible for paying when they are referred out of the MTF. However, their presence is critical to an academic medical center and their referral needs will be managed by the referral coordination center.

The case studied will consist of the process that enables Prime MTF beneficiaries to be officially referred out of the MTF, when the capability to deliver the requested care exists within MAMC. This occurs when the MCSC issues an authorization number permitting access to a network provider. A privacy concern was addressed, as it was necessary to have patient identifying demographics to examine events that caused a specific patient to be referred out of the MTF. All patient identification was handled in a manner compliant with the Health Insurance Portability and Accountability Act (HIPPA), and it was necessary to store, reference, or publish any such data in order to complete this study.

The steps for conducting HFMEA are listed on the AMEDD QMO web site (Quality Management Office, 2003) and are identical to the steps listed on the web site for the VA National Center for Patient Safety (VA National Center for Patient Safety, 2002). The steps are:

#### STEP 1 Define the HFMEA Topic

The first step is to define the topic of the Healthcare FMEA along with a clear definition of the process to be studied. See Figure 3. The topic selected should be a high-risk or high-vulnerability area, to warrant the investment of team members' time and resources. However, the topic selected for a failure mode analysis should not be overly complex. If the topic, such as referrals, is a complex process, each step will be composed of at least one and sometimes several subprocesses. Teams will find it beneficial to identify all subprocess steps before

proceeding with any further work. It is recommended that each relevant sub-process be treated as a separate FMEA. Otherwise, the task can become overwhelming and overly time consuming (Quality Health Care, 2003; DeRosier, Stalhandske, Bagian, & Nudell, 2002).

#### STEP 2 Assemble the Team

The team is to be multidisciplinary, including Subject Matter Expert(s) and an advisor. A multidisciplinary team is required to ensure that all salient viewpoints of the process are considered. Initially, it may be beneficial to include or interview a representative of everyone who is involved at any point of the process, to ensure that no step of the process is overlooked. Once the process is thoroughly researched, the team can be down-sized to its core members (Quality Health Care, 2003). In some circumstances, it may also be useful to include individuals who are unfamiliar with the process. This will ensure critical review of accepted standards and identification of potential vulnerabilities that might otherwise be missed (DeRosier et al., 2002). The advisor should be an expert on FMEA. In healthcare settings, this person is usually the Patient Safety Officer or JCACO compliance officer. The team leader should be someone who has skills in group management techniques.

#### STEP 3 Graphically Describe the Process

A. Develop and verify the flow diagram (this is a process, not a chronological diagram).

- B. Consecutively number each process step identified in the process flow diagram.
- C. If the process is complex, identify the area of the process to focus on (take manageable bites).
- D. Identify all sub-processes under each block of this flow diagram and consecutively letter these sub-steps (i.e. 1a, 1b...3e, etc.).
- E. Create a flow diagram composed of the sub-processes. Consecutively letter these sub-steps.

#### STEP 4 Conduct a Hazard Analysis

- A. List all possible/potential failure modes under the sub-processes identified in HFMEA Step 3. Consecutively number these failure modes (i.e. 1a(1), 1a(2)...3e(4), etc.). Transfer the failure modes to the HFMEA Worksheet. See Table 3.
- B. Determine the Severity and Probability of the potential failure mode and record these on the HFMEA Worksheet. Look up the Hazard Score on the Hazard Score Matrix and record this number on the HFMEA Worksheet. See Figures 4, 5, and 6.
- C. Go to the HFMEA Decision Tree. (Figure 8) Use the Decision Tree to determine if the failure mode warrants further action. Record the action to "Proceed" or to "Stop" on the HFMEA Worksheet. If the action is to "Stop" proceed to the next sub-process identified in Step 4B. (Note: if the score is 8 or higher, document the rationale for any "Stop" decisions.)

D. List all of the failure mode causes for each failure mode where the decision is to "Proceed" and record them on the HFMEA Worksheet.

#### STEP 5 Actions and Outcome Measures

A. Determine if you want to "eliminate," "control," or "accept" the failure mode cause. Record this decision on the HFMEA Worksheet.

B. Identify a Description of Action for each failure mode that will be eliminated or controlled.

C. Identify outcome measures that will be used to analyze and test the redesigned process.

D. Identify a single, responsible individual by title to complete the recommended action.

E. Indicate whether top management has concurred with the recommended action.

According to the VA National Center for Patient Safety, there is a hierarchy of actions that a team could come up with. Stronger actions include architectural/physical plant changes, new devices with usability testing before purchasing, engineering control or interlocks, and simplification of processes. Intermediate actions would comprise of increases in staffing, software enhancements, checklists, elimination of look alike products, read backs, enhanced documentation, and redundancy. Weaker actions consist of double checking, warning labels, new procedures/policies, training, and additional study or analysis (VA National Center for Patient Safety, 2002).

Step 1. Select the process you want to examine. Define the scope (Be specific and include a clear definition of the process or product to be studied).

*This FMEA is focused on* \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Step 2. Assemble the Team

FMEA Number \_\_\_\_\_

Date Started \_\_\_\_\_

Team Members 1. \_\_\_\_\_

2. \_\_\_\_\_

3. \_\_\_\_\_

Team Leader \_\_\_\_\_

Date Completed \_\_\_\_\_

4. \_\_\_\_\_

5. \_\_\_\_\_

6. \_\_\_\_\_

Are all affected areas represented?      YES      NO

Are different levels and types of knowledge represented on the team?      YES      NO

WHO WILL TAKE MINUTES AND MAINTAIN RECORDS? \_\_\_\_\_

Figure 3. Healthcare FMEA Process Steps 1 and 2.

HFMEA Subprocess Step Title and Number														
HFMEA Step 4 - Hazard Analysis									HFMEA Step 5 - Identify Actions and Outcomes					
Failure Mode: First Evaluate failure mode before determining potential causes	Potential Causes		Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
	→													

Figure 4. HFMEA worksheet.

<b>Catastrophic Event</b> <i>(Traditional FMEA Rating of 10 - Failure could cause death or injury)</i>	<b>Major Event</b> <i>(Traditional FMEA Rating of 7 – Failure causes a high degree of customer dissatisfaction.)</i>
<u>Patient Outcome:</u> Death or major permanent loss of function (sensory, motor, physiologic, or intellectual), suicide, rape, hemolytic transfusion reaction, Surgery/procedure on the wrong patient or wrong body part, infant abduction or infant discharge to the wrong family <u>Visitor Outcome:</u> Death; or hospitalization of 3 or more. <u>Staff Outcome:</u> * A death or hospitalization of 3 or more staff <u>Equipment or facility:</u> **Damage equal to or more than \$250,000 <u>Fire:</u> Any fire that grows larger than an incipient	<u>Patient Outcome:</u> Permanent lessening of bodily functioning (sensory, motor, physiologic, or intellectual), disfigurement, surgical intervention required, increased length of stay for 3 or more patients, increased level of care for 3 or more patients <u>Visitor Outcome:</u> Hospitalization of 1 or 2 visitors <u>Staff Outcome:</u> Hospitalization of 1 or 2 staff or 3 or more staff experiencing lost time or restricted duty injuries or illnesses <u>Equipment or facility:</u> **Damage equal to or more than \$100,000 <u>Fire:</u> Not Applicable – See Moderate and Catastrophic
<b>Moderate Event</b> <i>(Traditional FMEA Rating of “4” – Failure can be overcome with modifications to the process or product, but there is minor performance loss.)</i>	<b>Minor Event</b> <i>(Traditional FMEA Rating of “1” – Failure would not be noticeable to the customer and would not affect delivery of the service or product.)</i>
<u>Patient Outcome:</u> Increased length of stay or increased level of care for 1 or 2 patients <u>Visitor Outcome:</u> Evaluation and treatment for 1 or 2 visitors (less than hospitalization) <u>Staff Outcome:</u> Medical expenses, lost time or restricted duty injuries or illness for 1 or 2 staff <u>Equipment or facility:</u> **Damage more than \$10,000 but less than \$100,000 <u>Fire:</u> Incipient stage <sup>‡</sup> or smaller	<u>Patients Outcome:</u> No injury, nor increased length of stay nor increased level of care <u>Visitor Outcome:</u> Evaluated and no treatment required or refused treatment <u>Staff Outcome:</u> First aid treatment only with no lost time, nor restricted duty injuries nor illnesses <u>Equipment or facility:</u> **Damage less than \$10,000 or loss of any utility <sup>7</sup> without adverse patient outcome (e.g. power, natural gas, electricity, water, communications, transport, heat/air conditioning). <u>Fire:</u> Not Applicable – See Moderate and Catastrophic

FIGURE 5. Severity rating

Frequent - Likely to occur immediately or within a short period (may happen several times in one year)

Occasional - Probably will occur (may happen several times in 1 to 2 years)

Uncommon - Possible to occur (may happen sometime in 2 to 5 years)

Remote - Unlikely to occur (may happen sometime in 5 to 30 years)

Figure 6. Probability rating

PROBABILITY	SEVERITY OF EFFECT				
		Catastrophic	Major	Moderate	Minor
	Frequent	16	12	8	4
	Occasional	12	9	6	3
	Uncommon	8	6	4	2
	Remote	4	3	2	1

Figure 7. Hazard scoring matrix

How to Use This Matrix:

(1) Determine the Severity and Probability of the Hazard based upon the definitions found in figures 4 and 5.

(2) Look up the Hazard Score on the Matrix.

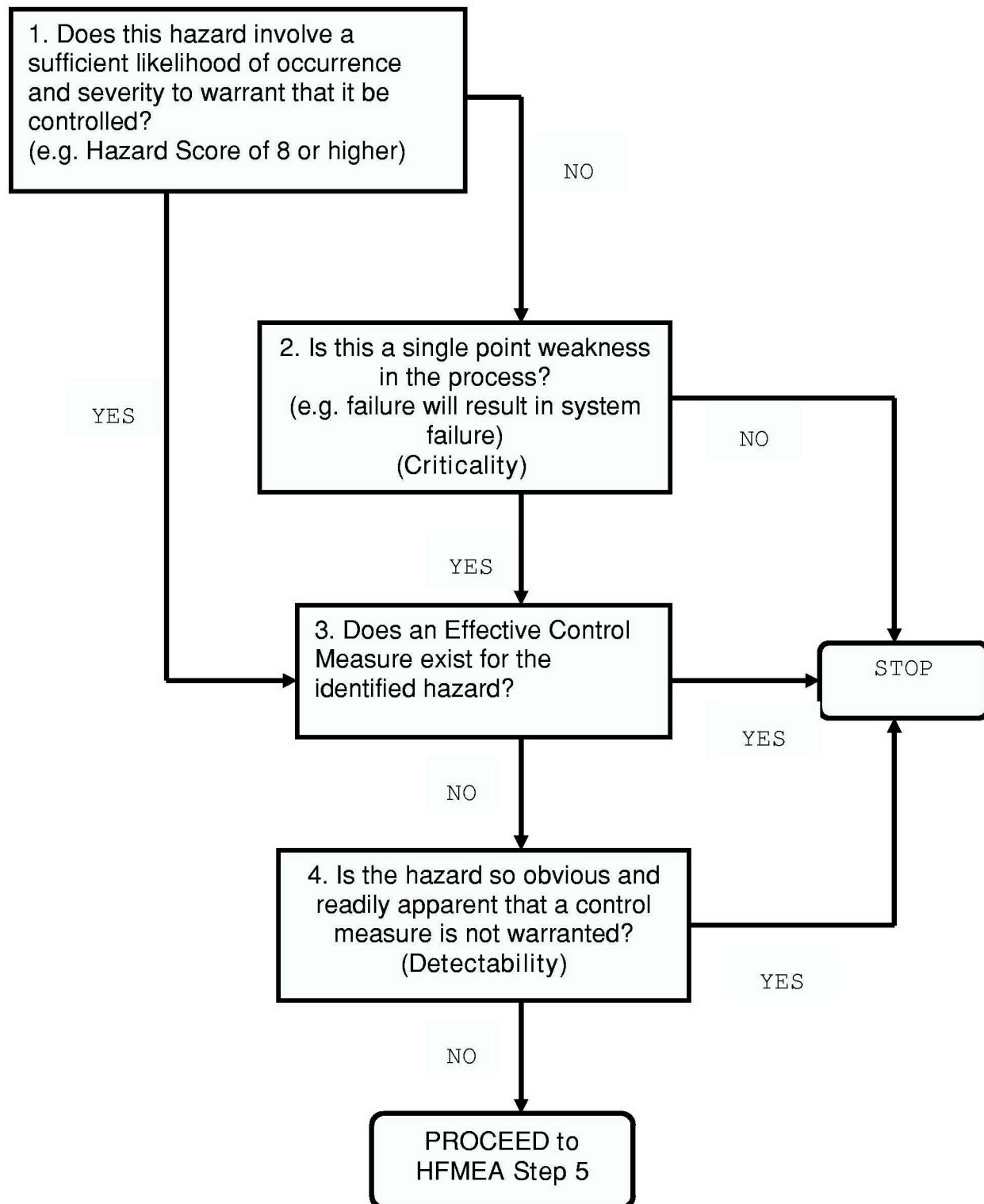


Figure 8. Decision Tree.

Threats to validity and reliability are not relevant in the literature review as a concern in a FMEA driven study. There is a threat to external validity as current variability in referral coordination practices between MTFs and differences in local MCSC networks may prevent utilization of this study's finding outside of MAMC. Another threat can arise from reactive effects. While the actual subjects, the beneficiaries referred to network, cannot react to being studied, the clinics within MAMC can, and to varying degrees, already are reacting in a Hawthorne effect manner. As administrative officers in charge of various clinics become aware that referrals are being looked at, they are taking steps to lessen the leakage from their assigned clinic. This threat can best be controlled by selection of astute team members who can see beyond short term fixes, to serve on the HFMEA team.

As HFMEA is based essentially on the guided assembled opinions of team members, the process cannot be called reliable in the sense of test-retest reliability. However, the product of the process, in this case an effective referral coordination center, should reliably prevent MTF Prime patients being needlessly referred to the network.

### Results

In phase one, the current contract specifications are compared to future contract specifications. This task was necessary ground work so that the failure mode analysis in phase two can accurately progress with the team members fully

understanding the contractual environment in which the future referral coordination center will function.

Future contract specifications were taken from Solicitation No. MDA906-02-R-0006, Managed Care Support Services, Amendment 0009. Section C of this solicitation is titled, "Descriptions/Specifications/Work Statement". This section contains the working details that will govern the conduct of the MCSC. Section C further specifies that other documents form an integral part of the contract and have the same force and effect as if set forth in full text. The other documents referred to are: Title 10, United States Code, Chapter 55, 32 Code of Federal Regulations, Part 199, the TRICARE Operations Manual (TOM) 6010.51-M, August 1, 2002, the TRICARE Policy Manual (TPM) 6010.54-M, August 1, 2002, the TRICARE Reimbursement Manual (TRM) 6010.55-M, August 1, 2002, and the TRICARE Systems Manual (TSM) 7910.1-M, August 1, 2002. Current contract requirements come from the Managed Care Support contractors (MCSC) Operations Manual 6010.49-M, dated MAR 2001. All documents were reviewed for wording concerning the broad categories of UM and referral management. For simplification, these broad categories are further broken down to the sub-categories of: UM planning, referrals, referral results, prospective review, concurrent review, retrospective review, disease management, case management, and health care finder. Summations of findings are described below, while the actual wording can be found in the Appendix.

### UM planning

UM planning remains a requirement, using the same basic wording in both the current and future contracts. Changed is the requirement for where the plan is to be submitted, to reflect the termination of Lead Agents and the standing up of TRICARE Regional Offices (TRO).

### Referrals

While both contracts speak towards referral management, the current contract states that referrals are the business of the contractor and offers specific standards that must be met, such as waiting times in the Tricare service center. The future contract is more general and collaborative in its intent, removing the responsibility of coordinating referrals from the contractor. It specifies that the MTF is to be optimized and the right of first refusal enforced, but it does not dictate procedure. The new contract does add language that 96 percent of referrals of MHS beneficiaries residing in TRICARE Prime service areas who seek care through the contractor shall be referred to the MTF or to a civilian network provider.

### Referral Results

In this sub-category, the current contract is silent, while the future contracts go into specifics on the return of referrals, the reporting of various referral statistics, and the auditing of the same for quality analysis.

### Preauthorization Review

On the subject of preauthorization, the current contract calls for benefit eligibility review and medical necessity review for all admissions. The future contract also requires benefit review for all admissions, but it requires medical necessity review (with exceptions for a few conditions) only for care delivered in a civilian inpatient setting or for non-enrolled beneficiaries utilizing the MTF. It makes it clear that the benefit review is not a preauthorization review, reflecting the over-all national trend away from preauthorization.

### Concurrent Review

In this sub-category, the current contract specifies broad requirements for inpatient concurrent review, while the future contract requires concurrent review only for mental health admissions.

### Retrospective Review

Differences in this sub-category exist for discharge review, a type of retrospective review designed to identify inappropriate utilization. The current contract specifies the use of InterQual, while the future contract mandates only that appropriate criteria be used quarterly on 1% of admissions. This change in wording allows the contractor to utilize whatever mechanism it and the TRO deem is best value.

### Disease Management

In this sub-category, the current contract is silent, while the future contract mandates programs designed to control cost.

The specifics of the future programs are not detailed. The contract states only that the future programs must fully support the services available within the MTF and be accountable in their metrics to reduce cost and manage utilization.

#### Case Management

In the current contract, the role of case manager is mandated and defined. It holds case managers to be responsible for enforcing many of the traditional objectives of UM in the management of high-cost, high-use, and high-risk patients. In contrast, the future contract specifies that case management will not be done except under certain circumstances. Many of the roles that were performed by case managers in the current contract are to be accomplished with disease management programs in the future contract.

#### Healthcare Finders

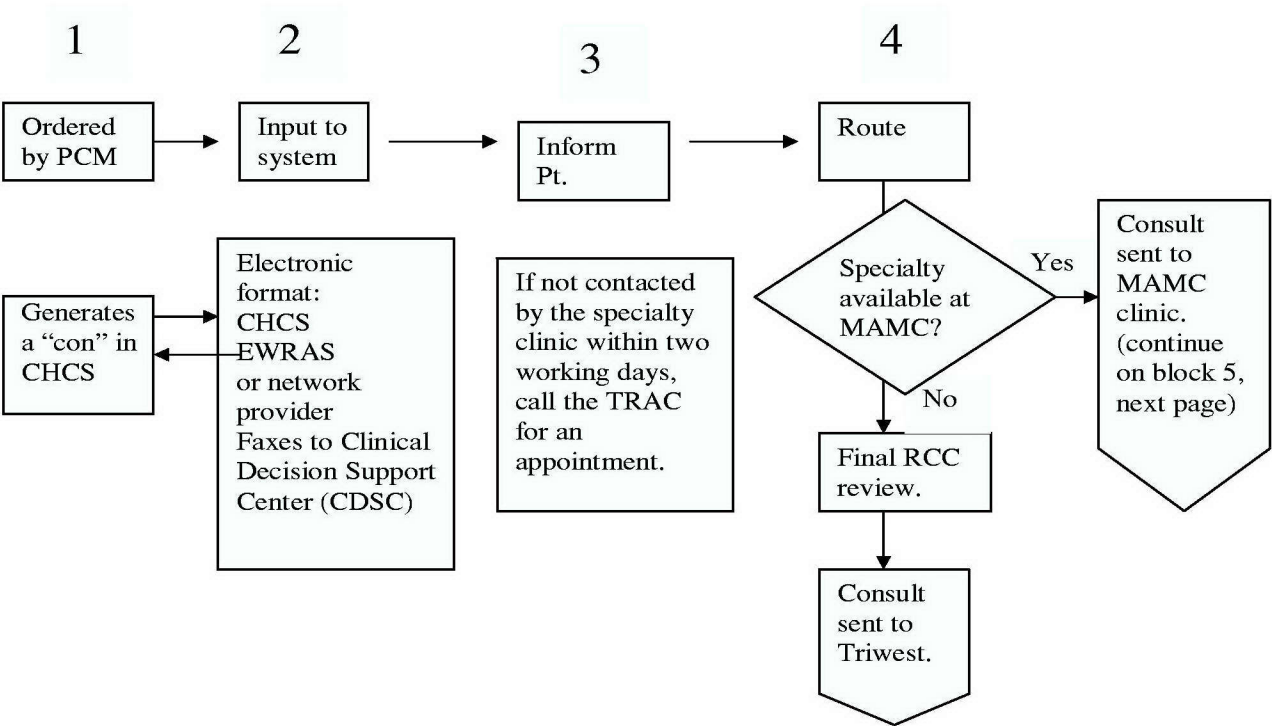
Currently, healthcare finders run referral management, assisting beneficiaries with obtaining appointments and sharing medical records. In the future, the healthcare finder is charged with helping beneficiaries assess information only. Referral management and the responsibility of finding appointments with civilian providers are moved to the MTF. This is potentially the largest contractual change that will affect the RCC.

This completes the contractual review. The new contract does place more UM and referral oversight responsibilities on the MTF. Armed with this review, team members were able to target failure mode analysis towards the contractual changes.

The actual HFMEA now began. The topic to be analyzed is the process of referral management. It is defined as manipulating the flow of patients in and out of MAMC in a fashion that provides best value to MAMC and its beneficiaries. Referrals can flow out of MAMC to network providers and into MAMC from network providers, the University of Washington TRICARE office, and all other regional MTFs which are: McChord Air Force clinic, Naval Hospital Oak Harbor, Naval Hospital Bremerton, Basset Army Community Hospital, Elmendorf Air Force Hospital, and Eielson Air Force clinic.

The team was then assembled. The team members selected were: the future supervisor of the Referral Coordination Center, various staff currently doing referral management at MAMC, referral representatives from the Navy and the Air Force, and the MAMC patient safety officer. The author of this graduate project will be the team leader.

The first action of the team was to graphically describe the process and consecutively number each process step. Initial flowcharting by the Referral Coordination Center staff revealed that the referral management process had several associated pathways for managing different referral types and routes. The team decided to focus on only one of the flowcharts, shown below in figure 9.



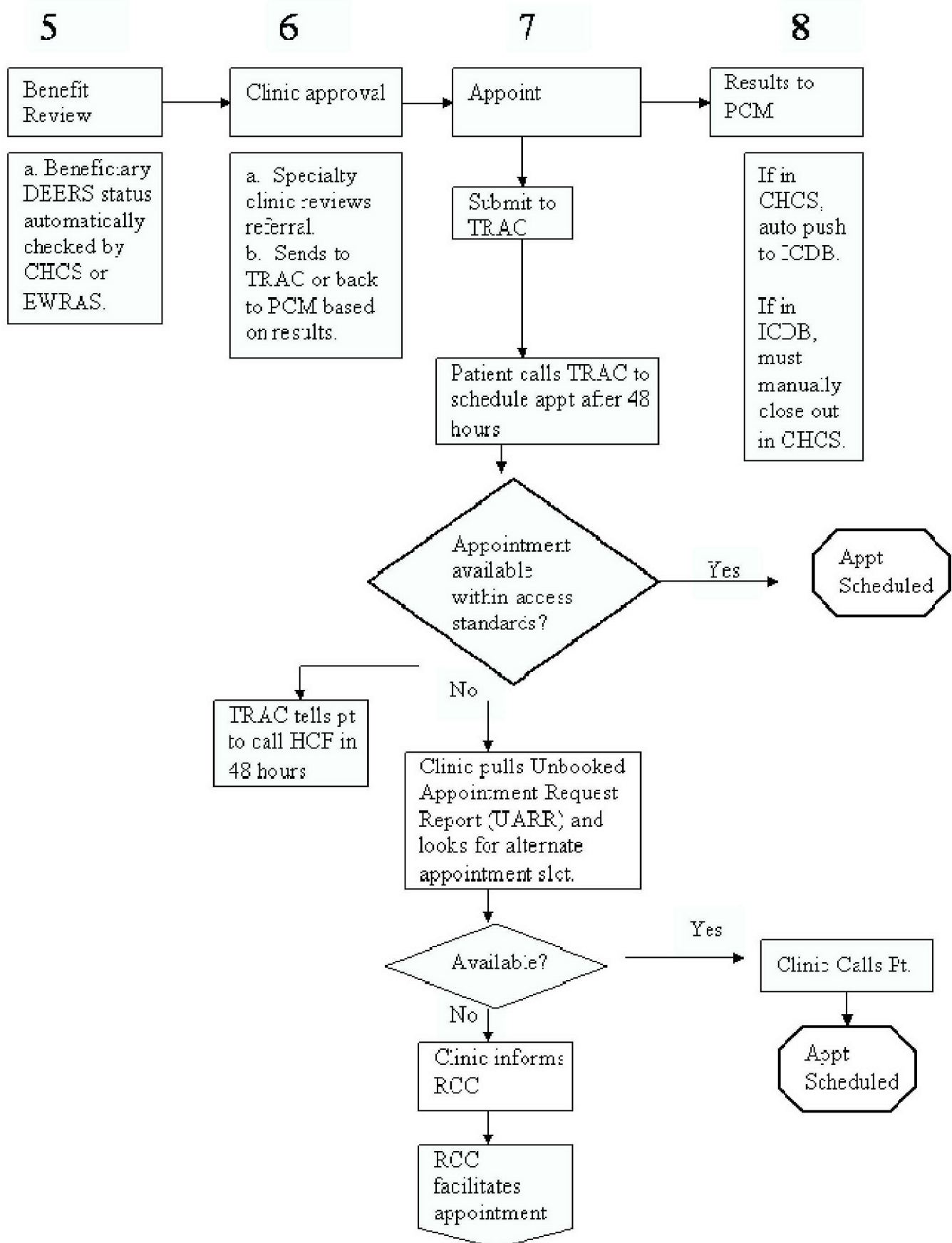


Figure 9. MAMC referral flowchart.

Due to complexity, this flowchart required further focusing in order to give the team a manageable task. The team chose to focus on a single process step, process number 7, which deals with appointing. This process was placed into a linear format, completing step three of HFMEA process.

Next was hazard analysis. It begins with the team brainstorming how each process step could fail. The results of the brainstorming are recorded in figure 10 below.

7A	7B	7C	7D	7E
Clinic makes appointment or sends request to TRAC.	Patient calls TRAC for appointment after 48 hours.	TRAC searches for appointment within access standards, or to patient's satisfaction.	TRAC gives appointment.	Or TRAC instructs patient to call HCF in 48.
Failure Mode:	Failure Mode:	Failure Mode:	Failure Mode:	Failure Mode:
<ol style="list-style-type: none"> <li>1. Clinic fails to tell patient they made the appt.</li> <li>2. Clinic makes the wrong appt.</li> <li>3. CHCS fails.*</li> <li>4. MCSC computer system fails.*</li> </ol>	<ol style="list-style-type: none"> <li>1. Pt doesn't call the TRAC.</li> <li>2. Pt calls TRAC too soon.</li> <li>3. Pt put on hold when calls TRAC.</li> </ol>	<ol style="list-style-type: none"> <li>1. TRAC can't find referral request for pt.</li> <li>2. Pt's benefits have changed since seeing provider.</li> <li>3. No correct appt available.</li> <li>4. No appt within access standard.</li> <li>5. Pt declines appropriate appt.</li> <li>6. Clinic has not updated template.</li> <li>7. Clinic restricts TRAC access.</li> </ol>	<ol style="list-style-type: none"> <li>1. Books the wrong appt.</li> <li>2. Gives the pt the wrong information.</li> </ol>	<ol style="list-style-type: none"> <li>1. Pt doesn't wait 48 hours before calling HCF.</li> <li>2. Pt doesn't call TRAC.</li> </ol>

\* These failure modes are applicable to all steps in process #7.

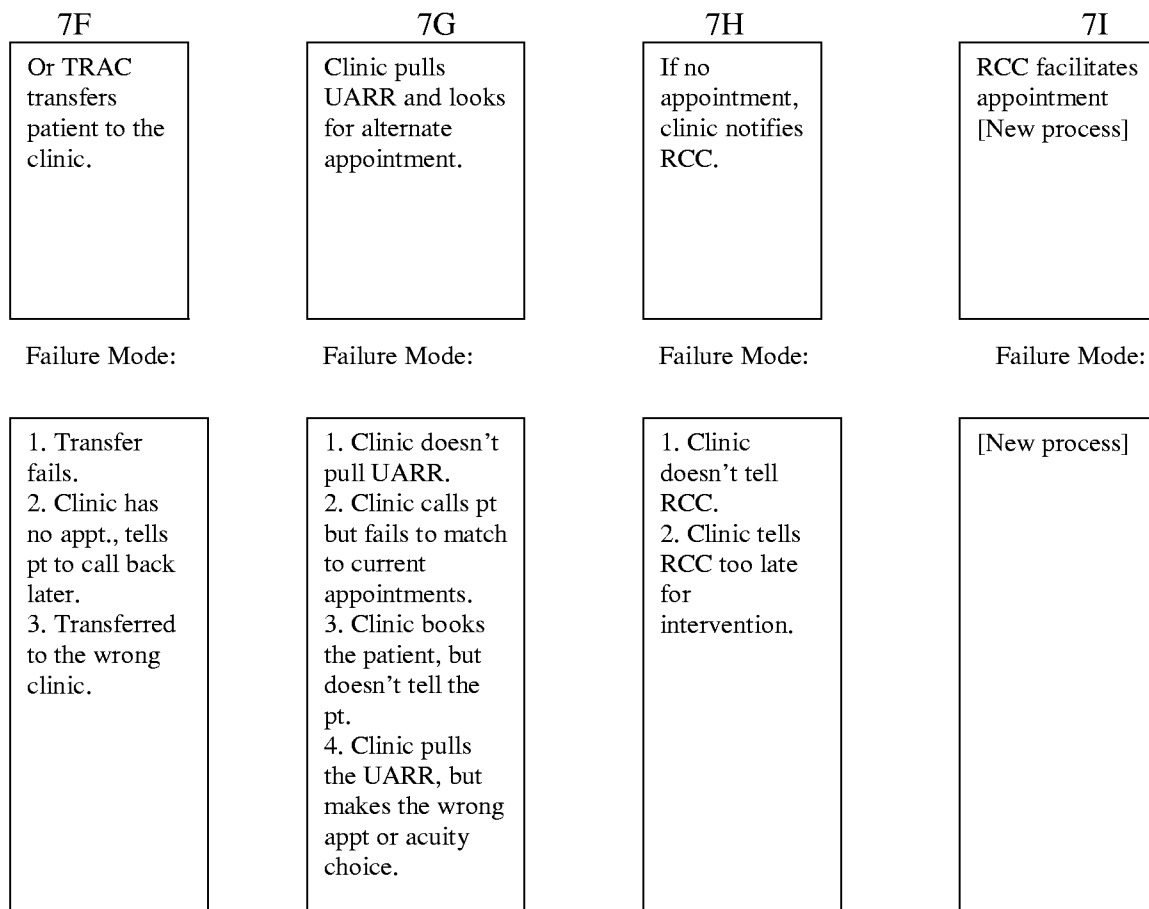


Figure 10.

Once the failure modes are identified, severity and probability for each failure mode are determined based on SME experience. Refer to figure 5, 6, and 7 for guidelines on severity and probability. After determining severity and probability, the results are run through the HFMEA decision tree (see figure 8) to determine the need for proceeding on to step 5. All decisions not to proceed with identified failure modes are documented. The results of this case study hazards analysis are found in the following worksheets, with discussion following.

HFMEA Subprocess 7 Step A, Clinic Makes Appointment or Sends Request to TRAC. Failure Modes 1-4														
HFMEA Step 4 - Hazard Analysis										HFMEA Step 5 - Identify Actions and Outcomes				
Failure Mode: First Evaluate failure mode before determining potential causes		Potential Causes	Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7A.1	Clinic fails to tell patient they made the appt.	→	Major	Occasional	9	n/a	Yes	n/a	No	Existing control measure deemed effective. Even if patient misses appointment, future adverse events will be controlled by patient or PCM follow up to requested referral.				
7A.2	Clinic makes the wrong type of appt.	→	Minor	Occasional	3	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				
7A.3	CHCS failure	→	Major	Uncommon	8	n/a	No	Yes	No	High degree of detectability. Even if CHCS failed completely it would be obvious to multiple users, triggering large scale compensation and repair efforts.				
7A.4	MCSC computer system fails.	→	Moderate	Uncommon	4	Yes	No	Yes	No	High degree of detectability. Even if system failed completely it would be obvious to multiple users, triggering large scale compensation and repair efforts.				

Figure 11. HFMEA worksheet 7A.

HFMEA Subprocess 7 Step B, Patient Calls TRAC for Appointment After 48 Hours. Failure Modes 1-3														
HFMEA Step 4 - Hazard Analysis										HFMEA Step 5 - Identify Actions and Outcomes				
Failure Mode: First Evaluate failure mode before determining potential causes		Potential Causes	Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7B.1	Pt doesn't call the TRAC.	→	Minor	Occasional	3	Yes	No	No	Yes					
7B.2	Pt calls TRAC too soon.	→	Moderate	Frequent	8	n/a	No	No	Yes					
7B.3	Pt put on hold when calls TRAC.	→	Moderate	Occasional	6	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				

Figure 12. HFMEA worksheet 7B.

HFMEA Subprocess 7 Step C, TRAC Searches for Appointment Within Access Standards, or to Patient’s Satisfaction. Failure Modes 1-7														
HFMEA Step 4 - Hazard Analysis										HFMEA Step 5 - Identify Actions and Outcomes				
Failure Mode: First Evaluate failure mode before determining potential causes		Potential Causes	Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7C.1	TRAC can’t find referral request for pt.	—————→	Moderate	Occasional	6	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				
7C.2	Pt’s benefits have changed since seeing provider.	—————→	Moderate	Occasional	6	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				
7C.3	No correct appt available.	—————→	Moderate	Frequent	8	n/a	No	No	Yes					
7C.4	No appt within access standard.	—————→	Moderate	Frequent	8	n/a	No	No	Yes					
7C.5	Pt declines appropriate appt.	—————→	Minor	Frequent	4	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				
7C.6	Clinic has not updated template.	—————→	Major	Frequent	16	n/a	No	No	Yes					
7C.7	Clinic restricts TRAC access.	—————→	Moderate	Frequent	8	n/a	No	No	Yes					

Figure 13. HFMEA worksheet 7C.

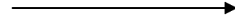
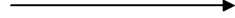
HFMEA Subprocess 7 Step D, TRAC gives appointment. Failure Modes 1-2														
HFMEA Step 4 - Hazard Analysis										HFMEA Step 5 - Identify Actions and Outcomes				
Failure Mode: First Evaluate failure mode before determining potential causes		Potential Causes	Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7D.1	Books the wrong appt.		Minor	Occasional	3	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				
7D.2	Gives the pt the wrong information.		Moderate	Occasional	3	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				

Figure 14. HFMEA worksheet 7D.



HFMEA Subprocess 7 Step E, TRAC Instructs Patient to Call HCF After 48 Hours. Failure Modes 1-2														
HFMEA Step 4 - Hazard Analysis										HFMEA Step 5 - Identify Actions and Outcomes				
Failure Mode: First Evaluate failure mode before determining potential causes		Potential Causes	Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7E.1	Pt doesn't wait 48 hours before calling HCF.		Moderate	Frequent	8	n/a	No	No	Yes					
7E.2	Pt doesn't call HCF.		Minor	Occasional	3	Yes	No	No	Yes					

Figure 15. HFMEA worksheet 7E.

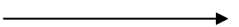

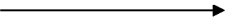
HFMEA Subprocess 7 Step F, TRAC Transfers Patient to the Clinic. Failure Modes 1-3														
HFMEA Step 4 - Hazard Analysis										HFMEA Step 5 - Identify Actions and Outcomes				
Failure Mode: First Evaluate failure mode before determining potential causes		Potential Causes	Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7F.1	Transfer fails.		Minor	Occasional	3	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				
7F.2	Clinic has no appt., tells pt to call back later		Moderate	Frequent	8	n/a	No	No	Yes	Low hazard score and absence of single point weakness precludes further action.				
7F.3	Transferred to the wrong clinic.		Minor	Uncommon	2	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				

Figure 16. HFMEA worksheet 7F.

HFMEA Subprocess 7 Step G, Clinic Pulls UARR and Looks for Alternate Appointment. Failure Modes 1-4														
HFMEA Step 4 - Hazard Analysis										HFMEA Step 5 - Identify Actions and Outcomes				
Failure Mode: First Evaluate failure mode before determining potential causes		Potential Causes	Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7G.1	Clinic doesn't pull UARR.	→	Moderate	Frequent	8	n/a	No	No	Yes					
7G.2	Clinic pulls the UARR, but makes the wrong appt or acuity choice.	→	Moderate	Uncommon	4	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				
7G.3	Clinic calls pt but fails to match pt needs to current appointments.	→	Moderate	Uncommon	4	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				
7G.4	Clinic books the patient, but doesn't tell the pt.	→	Major	Uncommon	6	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				

Figure 17. HFMEA worksheet 7G.



HFMEA Subprocess 7 Step H, If No Appointment, Clinic Notifies RCC. Failure Modes 1-2														
HFMEA Step 4 - Hazard Analysis										HFMEA Step 5 - Identify Actions and Outcomes				
Failure Mode: First Evaluate failure mode before determining potential causes		Potential Causes	Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7H.1	Clinic doesn't tell RCC.		Moderate	Frequent	8	n/a	No	No	Yes					
7H.2	Clinic tells RCC too late for intervention.		Moderate	Occasional	6	No	n/a	n/a	No	Low hazard score and absence of single point weakness precludes further action.				

Figure 18. HFMEA worksheet 7H.


HFMEA Subprocess 7 Step C, TRAC Searches for Appointment Within Access Standards, or to Patient's Satisfaction. Failure Mode (6) Clinic Has Not Updated/Released Schedule														
HFMEA Step 4 - Hazard Analysis									HFMEA Step 5 - Identify Actions and Outcomes					
Failure Mode: First Evaluate failure mode before determining potential causes	Potential Causes		Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7C6 - Clinic has not updated/released schedule			Major	Frequent	16	n/a	No	No	Yes					
	7C6a	No command empathis or visibility over issue.	Major	Frequent	16	n/a	No	No	Yes	Control	After RCC stands up, mandate notification to DCCS of any clinic that has not released a current 6-week provider schedule.	Number of clinics with not updated schedule will decrease.	C, RCC	Yes
	7C6b	Clinic knows provider availability will change, but is not sure exactly when.	Major	Frequent	16	n/a	No	No	Yes	Control	Change all schedules to teams only, as military PCMs by name are unsustainable.	Number of clinics with not updated schedule will decrease.	Clinic AOs	No
	7C6c	Clinic lacks the manpower to keep schedules updated.	Moderate	Frequent	8	n/a	No	No	Yes	Eliminate	Hire additional staff or realign clinic taskings.	Number of clinics with not updated schedule will decrease.	Clinic AOs	Pending
	7C6d	Too hard to change or cancel a schedule once its been posted.	Moderate	Frequent	8	n/a	No	No	Yes	Control	1. Clinic AOs will enforce the posting of schedules, even if it will change. 2. Training on how to modify posted schedules.	Number of clinics with not updated schedule will decrease.	Clinic AOs	Yes

Figure 19. HFMEA worksheet 7C6.


HFMEA Subprocess 7 Step C, TRAC Searches for Appointment Within Access Standards, or to Patient's Satisfaction. Failure Mode (7) Clinic Restricts TRAC Access														
HFMEA Step 4 - Hazard Analysis									HFMEA Step 5 - Identify Actions and Outcomes					
Failure Mode: First Evaluate failure mode before determining potential causes	Potential Causes		Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	Actions or Rationale for Stopping	Outcome Measure	Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7 C 7 - Clinic restricts TRAC access.			Moderate	Frequent	8	n/a	No	No	Yes					
	7C7a	TRAC has infrastructure problem in that only restricted appointments show up.	Major	Frequent	12	n/a	No	No	Yes	Eliminate	Ensure TRAC has correct security key / change key that will allow them to view all applicable appointments.	TRAC has visibility of all applicable appointments	C, RCC	Yes
	7C7b	Clinic prefers to self book so they can triage specialized appointments.	Minor	Frequent	5	No	n/a	n/a	No	Accept	Restriction of TRAC access in this case is by design. If the clinic appropriately books, then it is not a problem to the MTF.			
	7C7c	Clinic makes too many appointments restricted so they can control level of workload.	Minor	Frequent	5	Yes	Not in all MTFs	No	Yes	Control	Give RCC ability to change unfilled restricted appointments to routine status for Primary Care clinics.	Number of unfilled restricted appointments drops.	C, RCC	Yes

Figure 20. HFMEA worksheet 7C7.


HFMEA Subprocess 7 Step G, Clinic Pulls UARR and Looks for Alternate Appointment. Failure Modes (1) Clinic Doesn't Pull UARR														
HFMEA Step 4 - Hazard Analysis														
Failure Mode: First Evaluate failure mode before determining potential causes	Potential Causes		Scoring			Decision Tree Analysis				Action Type (Control, Accept, Eliminate)	HFMEA Step 5 - Identify Actions and Outcomes		Person Responsible	Management Concurrence
			Severity	Probability	Haz Score	Single Point Weakness?	Existing Control Measure ?	Detectability	Proceed?					
7G1 - Clinic doesn't pull UARR			Moderate	Frequent	8	n/a	No	No	Yes					
	7G1a	Clinic still pulls TCONX report. Doesn't know about UARR.	Moderate	Frequent	8	n/a	No	No	Yes	Eliminate	Train clerks. Remove TCONX from pick list.	All clinics will know how to pull UARR.	AOs	Yes
	7G1b	Clinic doesn't pull UARR as they can't keep up with current workload.	Major	Occasional	9	n/a	No	No	No	Accept	Expanding basic access is not within the scope of this HFMEA.			
	7G1c	Data in the UARR is inaccurate or not timely as TRAC or clinic gave the patient a late opening appointment.	Moderate	Frequent	8	n/a	No	No	Yes	Control	Further research is needed to obtain a solution.	UARR report will be up to date with all relevant data.	Pending	
	7G1d	UARR is not easy to pull or manipulate.	Moderate	Frequent	8	n/a	No	No	Yes	Control	Clerk training on methods to control and utilize UARR effectively.	Clinics will use UARR.	AOs	Yes
	7G1e	UARR has an ominous "are you sure you want to run this lengthy report" warning, even though it is not long.	Minor	Frequent	4	Yes	No	No	Yes	Control	Train clerks to ignore warning or have warning removed, if possible.	Clinics will run UARR.	AOs	Yes

Figure 21. HFMEA worksheet 7G1.

As the above worksheets show, the decision criterion to proceed with analysis was met on sub-process failure modes: 7B1, 7B2, 7C3, 7C4, 7C6, 7C7, 7E1, 7E2, 7F2, 7G1, and 7H1. The next step in HFMEA is to query the SMEs for causes behind each failure mode and then design actions to control, accept, or eliminate the potential failures. While possible to do on all of the sub-process failure modes identified, the time required for that level of undertaking is more than most teams can commit to. Therefore, the team decided to focus their efforts on three failure modes. By consensus, the failure modes selected for further analysis were 7C6 - Clinic has not updated template, 7C7 - Clinic restricts TRAC access, and 7G1 - Clinic does not pull Unbooked Appointment Request Report (UARR) from CHCS. These three failure modes were placed separately on to HFMEA worksheets and the team met again to brainstorm causes for each one. Results are shown in figures 18, 19, and 20, above.

#### Discussion

The first purpose of this project was an attempt to analyze the administrative process of using a referral coordination center to control the referring of Prime beneficiaries out of the MTF and to a civilian network provider. Early during team meetings, it became apparent that we were not going to be able to analyze the entire process. This difficulty arose because Prime patient referrals out of the MTF was not a stand alone process, but a system of several processes whose purpose is to maximize MTF utilization. Maximizing an MTF is a larger topic than referral

management and as indicated in the literature review, it was necessary to narrow our focus down to a manageable size. Through the flow charting process, the team found that the while interactions between all of the key players listed in table two were complex, the bulk of the process centered on appointing. Therefore the team also centered on appointing, recognizing that the best way to prevent a patient from being referred out of the MTF is to ensure they were given an appointment inside the MTF.

Focusing on appointing was an appropriate direction to proceed, as appointing is a function that will fall under the RCC. There are three levels of appointing that the RCC will be actively involved with: the initial appointments that the patient makes with their primary care manager (PCM), the appointment with a specialist should the PCM deem it necessary to refer, and any subsequent appointments that may arise from the visit to the specialist. The focus of the HFMEA team was on the second level of appointing, from the PCM to the specialist. This type of appointment is by definition a referral, as it only occurs when the PCM refers the patient to a specialist. Facilitating appointments of this type is a major step towards maximizing MTF utilization, the value of which explains why the team went so quickly past the topic of stopping referrals out of the MTF and began working on appointing within the MTF.

Appointing is a major sub-component of referrals. There is no point of trying to fix referrals unless the sub-components under it are fixed first. To this end, the team was successful in

identifying several causes for poor appointing efficiency and potential actions to control those causes. Should all of these actions be implemented it is reasonable to expect that the RCC will cause improvement in the area of internal MTF appointing.

The second purpose of the project was to evaluate the use of HFMEA on a proactive administrative process. While it was appropriate for the team to focus on appointing, did the team focus in this direction because it was the correct way to go, or because the HFMEA tool gave them no other option? To answer this question one can look at traditional uses of FMEA and compare it to how the team used the tool.

FMEA is currently a manufacturing industry standard for examining static processes. HFMEA is also becoming a standard being used in many hospitals to study complex, yet static processes such as medication administration. In both of these examples, the process is already in place. That is to say in current practice, step B in medication administration follows step A. Failure mode analysis is used to proactively ask the question, "what would happen if B didn't smoothly follow A?"

When the team applied HFMEA to the RCC, it was applying HFMEA to an administrative process that was not yet static, as the RCC had not yet stood up as a functioning office. What is more, guidance and advice was continually being received from higher headquarters on what a RCC needed to look like and accomplish. It was difficult to keep up with the changes while utilizing the discipline that HFMEA mandates. When the team asked, "what would

happen if B didn't smoothly follow A?" the answer was occasionally that A might not happen at all.

HFMEA progresses one disciplined step at a time. First you flowchart process, then you brainstorm how the process could fail, then you consider how critical that failure is, and plan how to control it. This discipline gives HFMEA both strength and a weakness. This sequence is rigid and time consuming. At no point can you go back and easily modify a previous step. Our team found that, as the situation above our level of influence evolved, our flowcharts also needed to evolve. Yet, going back and reworking the flowcharts would necessitate going back and reconsidering how the new flowcharts could fail. In essence this would be starting over; something the team could not do due to time constraints. The team expressed concern that the HFMEA tool was too rigid to keep up with the fast changing situation.

On the other hand, it was this very rigidity that led the team to the core causes of many real appointing problems. Some of these problems are now solved, as the team also came up with solutions to control the problems. This identification of system problems and their causes is exactly what HFMEA is designed to do. The rigidity of HFMEA forced the team to stay firmly focused. Whenever a change or potential change to the RCC process was presented the team had to ignore it as a distraction, as to do otherwise would have stretched the HFMEA timeline out too far. As a result, the team could not and did not drift from their task, but identified failure hazards which were forced into the decision

tree (figure 8). If it looked like the hazard was going to be overcome by change, then it was rejected for further action. What remained were real problems that were hidden below layers of complexity and change, but were brought to the surface by the HFMEA process. In general, these problems focused on process visibility and management oversight.

Also of note was the strength of the actions the team suggested. Many of the actions chosen by our team included items that are rated as strong or intermediate, as defined by the VA and listed in the procedure section of this paper. Without the discipline of the HFMEA tool, the team may have responded to the fast-changing situation by recommending weaker actions such as additional study or new processes.

#### Conclusions and Recommendations

The case study suggests that the proposed referral coordination center will be able to prevent unacceptable levels of MTF Prime patient referrals to the network. I base this on the team findings that many of the short-falls in appointing are due to a lack of oversight, and the RCC will now provide that oversight.

Some of the problems with appointing currently exist because it is not in the best interest of any department to fix them. Clinics feel no driving need to fix their schedules as to do so would create more work for them at the same pay. Appointing centers will answer all calls and make all the possible appointments whether the system is optimized or not. Therefore,

they also feel little need to take action enforcing optimization as it is not their job and it will not change the number of calls they have to answer. Hospital Commanders and Deputy Commanders want well-utilized MTFs, but with the old contract's lack of financial repercussions, they often found other issues that more loudly demanded their attention.

With the financial impact of the new TRICARE contracts, the local MTF commander has now placed emphasis on referrals by reorganizing, staffing, and placing an officer in charge of a Referral Coordination Center. It is now someone's full-time job to be interested in fixing problems with referrals and appointing. In fact, the officer in charge of the RCC was on the HFMEA team and has already identified specific problems and has taken steps to improve referral management.

This study did not reveal if the correct structure for a RCC has been created here at MAMC, an item that was listed as one of the expected findings. I think this failed finding was caused by two things, the selection of HFMEA as a tool and errors made in step one of utilizing the tool.

First, while HFMEA is a good tool, it was not designed to reveal if the RCC was being structured correctly. As mentioned in the literature review, there are different types of FMEAs besides HFMEA. There are also Concept, Design, Process, System, and Machinery FMEAs. HFMEA was chosen for this study because it is recommended by JCAHO and has been specifically designed and tested by the VA to be applicable to healthcare settings. However, HFMEA

is most similar to a process FMEA, in that it looks at a current functioning process and asks the question, "How could this process fail?" This graduate project did not look at a current functioning process. It looked at a proposed process and tried to ask the question, "How could we build this process so that it might not fail?" This can be restated as, "What inputs does this process need so that it does not fail?" This differs from the HFMEA question in that it looks for inputs, where HFMEA looks at outputs. When our team, using HFMEA, flowcharted the referral process and then brainstormed how it could fail we got some very useful and important results concerning how to safeguard and maximize outputs. These results were exactly what HFMEA is designed to do, but they were not exactly what we were looking for.

Secondly, our team selected a topic larger than it could handle. This happened right at the very first step of the HFMEA when we defined our process. We stated our process as, "the process of referral management. It is defined as manipulating the flow of patients in and out of MAMC in a fashion that provides best value to MAMC and its beneficiaries." We now know that this is not a process, it is a system. Conducting an analysis on a system can be done, but the best way to do this is to actually perform a separate analysis upon each process within the system and then integrate the results.

For future reviews of administrative processes, I do recommend considering the use of an HFMEA format if ones objective

is to find out why a current process is failing or could fail. Its ability to keep a group focused on task is superior to other group process or total quality management techniques such as brainstorming, list reduction, or using the plan-do-check-act cycle. If, however, your goal is to discover what inputs are required to build a system or a process, then you may be better served by a Concept or System FMEA or more traditional reengineering tools such as stakeholder analysis.

## Appendix

*UM Planning**Current wording:*

*MCSC OPERATIONS MANUAL 6010.49-M, MAR 2001 Ch.7 Sec 1,*

1.1 The contractor shall fully describe in a written Utilization Management Plan all processes, procedures, criteria, staff and staff qualifications, and information and data collection activities and requirements the contractor shall use in conducting utilization management activities including utilization reviews, discharge planning, disease management programs, demand management programs or other techniques employed by the contractor to exercise clinical oversight.

1.1.2 Plan shall be approved by the Contracting Officer.

1.1.3 Plan specific, measurable goals.

1.1.4. The contractor, Lead Agent, and Contracting Officer shall review the plan annually.

*Future wording:*

*TRICARE OPERATIONS MANUAL 6010.51-M, AUGUST 1, 2002, Ch.7 Sec 1,*

1.2. The contractor shall fully describe in a written Utilization Management Plan all processes, procedures, criteria, staff and staff qualifications, and information and data collection activities and requirements the contractor shall use in conducting utilization management activities including utilization reviews, discharge planning, disease

management programs, demand management or other techniques employed by the contractor to exercise clinical oversight.

1.3 submitted through the appropriate Regional Director to the Contracting Officer for approval.

1.4 Plan specific, measurable goals for the evaluation of the overall effectiveness of the Utilization Management Program.

*Solicitation No. MDA906-02-R-0006 Managed Care Support Services Amendment 0009. Section C Descriptions/ Specifications/Work Statement*

For beneficiaries who are not enrolled to an MTF, the contractor shall ensure that care provided, including mental health care, is medically necessary and appropriate and complies with the TRICARE benefits contained in 32 CFR 199.4 and 199.5. The contractor shall use best practices consistent with TRICARE law, regulation and policy.

#### *Referrals*

##### *Current wording:*

*MCSC OPERATIONS MANUAL 6010.49-M, MAR 2001 Ch.7 Sec 1,*

1.2. The contractor, using Health Care Finders and PCMs, is responsible for coordinating referral functions for all Military Health System (MHS) beneficiaries.

1.3. Standards: The contractor shall provide a staff of Health Care Finders to ensure that referral services are available at all times through a TRICARE Service Center with no more than a 15 minute wait for beneficiaries visiting the

TRICARE Service Center. The telephone blockage rate at each TRICARE Service Center shall not exceed five percent, and beneficiaries telephoning the TRICARE Service Center shall never be placed on "hold" for more than five minutes.

2.0. The contractor shall establish referral mechanisms to ensure optimal utilization of MTF facilities and resources and to foster coordination of all care delivered in the civilian sector and care referred to and from the MTFs.

Ch 7, sec 2, 1.2 The contractor, using Health Care Finders and PCMs, is responsible for coordinating referral functions for all Military Health System (MHS) beneficiaries.

*Future wording:*

*Solicitation No. MDA906-02-R-0006 Managed Care Support Services  
Amendment 0009. Section C Descriptions/ Specifications/Work  
Statement*

C7.3.1 In TRICARE Prime areas that include an MTF, the MTF has the right of first refusal for all referrals

C7.3.2 Ninety-six percent of referrals of MHS beneficiaries, residing in TRICARE Prime service areas who seek care through the contractor, shall be referred to the MTF or a civilian network provider.

C-7.37.1. The contractor shall provide unlimited read-only off-site electronic access to all TRICARE related data maintained by the Contractor. Minimum access shall include two authorizations at each MTF

C-7.39. The contractor shall meet with each Regional Director and each MTF in a collaborative and partnering manner to ensure balanced specialty workloads using the contractor's referral protocols with the MTF as the first referral site.

C7.39. The contractor shall provide each MTF with referral information concerning any MTF enrollee within 24 hours of a referral.

#### *Referral Results*

##### *Current wording:*

None.

##### *Future wording:*

*TRICARE OPERATIONS MANUAL 6010.51-M, AUGUST 1, 2002, CHAPTER 15, SECTION 3.*

7.0. The contractor shall report monthly the number of referrals processed to the appropriate MTF and Regional Office during the reporting period by MTF. The report shall include: Number of referrals received by the contractor by clinical speciality (i.e. orthopedics, urology). Number referred to MTF/MTFs within access standards by speciality. Number of referrals accepted by MTF by speciality. Number of referrals rejected by MTF by speciality. Number referred to a network provider within access standard. Number referred to a non-network provider by speciality within access standards and the reason for each non-network referral. Number of referrals failing to meet access standards and the reason.

Percentage of all referrals during reporting in which the results of the completed referral were communicated in writing to the initiating provider within the standard.

*Solicitation No. MDA906-02-R-0006 Managed Care Support Services Amendment 0009. Section C Descriptions/Specifications/Work Statement*

7.1.16 The contractor shall ensure that network specialty providers provide clearly legible specialty care consultation or referral reports, operative reports, and discharge summaries to the beneficiary's initiating provider within 10 working days of the specialty encounter 98% of the time. In urgent/emergent situations, a preliminary report of a specialty consultation shall be conveyed to the beneficiary's initiating provider within 24 hours. All consultation or referral reports, operative reports, and discharge summaries shall be provided to the provider who initiated the referral within 30 calendar days. 7.2. The contractor shall audit two percent or ten referrals, whichever is greater, of referrals from each MTF monthly to validate the return of all required information.

*Preauthorization Review*

*Current wording:*

*MCSC OPERATIONS MANUAL 6010.49-M, MAR 2001 Ch.7 Sec 1*

3.3 Requirements The contractor shall establish and conduct prospective review procedures to allow for benefit determination, evaluation of proposed treatment,

determination of medical necessity, assessment of level of care required, assignment of expected length of stay for those types of care and for facilities not reimbursed on a DRG basis, and appropriate placement prior to the delivery of care.

3.3.2. The contractor shall prospectively review all care for which an inpatient nonavailability statement (NAS) is required.

*Future wording:*

*Solicitation No. MDA906-02-R-0006 Managed Care Support Services  
Amendment 0009. Section C Descriptions/Specifications/Work  
Statement*

7.3 The contractor's referral management processes shall include a provision for evaluating the proposed service to determine if the type of service is a TRICARE benefit and informing the beneficiary prior to the visit in the event the requested service is not a TRICARE benefit. This shall not be a preauthorization review.

7.4. For beneficiaries who are not enrolled to an MTF, the contractor shall ensure that care provided, including mental health care, is medically necessary and appropriate and complies with the TRICARE benefits contained in 32 CFR 199.4 and 199.5. The contractor shall use best practices in reviewing and approving care and establishing medical management programs to carry out this activity to the extent authorized by law.

TRICARE OPERATIONS MANUAL 6010.51-M, AUGUST 1, 2002

Ch 7 sec 2, 1.0. Preauthorization review shall be performed for: Adjunctive Dental, Mental Health, Substance Abuse, Organ and Stem Cell Transplants.

*Concurrent Review*

*Current wording:*

*MCSC OPERATIONS MANUAL 6010.49-M, MAR 2001*

3.4 Except for beneficiaries eligible for Medicare Part A and enrolled in Medicare Part B, the contractor shall establish and conduct concurrent review procedures to validate the appropriateness of admission, level of care, medical necessity of treatment and/or procedures, quality of care rendered, and information provided during any previous review. Also, the contractor's concurrent review procedures shall include provisions for identification of beneficiaries for whom case management services would be appropriate.

*Future wording:*

*TRICARE OPERATIONS MANUAL 6010.51-M, AUGUST 1, 2002*

6.1. The contractor shall conduct concurrent review for continuation of inpatient mental health services within 72 hours of emergency admissions.

*Retrospective Review**Current wording:**MCSC OPERATIONS MANUAL 6010.49-M, MAR 2001*

3.5 The contractor shall conduct quarterly focused reviews of a one percent sample For all cases selected for retrospective review, the following review activities shall occur:

3.5.1. Admission Review. The medical record must indicate that inpatient hospital care was medically necessary and provided at the appropriate level of care.

3.5.2. Invasive Procedure Review. The performance of unnecessary procedures may represent a quality and/or utilization problem.

3.5.3. Discharge Review. Records shall be reviewed using appropriate criteria identified in paragraph 3.2. (Inter Qual), and the initial reviewer identifies for second level (physician) review, potential problems with premature discharges (i.e., where, in the opinion of the physician reviewer, the patient was not medically stable and/or where discharge was not consistent with the patient's need for continuing acute inpatient hospital care), as well as other potential quality problems.

*Future wording:**TRICARE OPERATIONS MANUAL 6010.51-M, AUGUST 1, 2002*

8.0 conduct quarterly focused reviews of a one percent sample of medical records to determine the medical necessity and

quality. For all cases selected for retrospective review, the following review activities shall occur:

8.1. Admission Review. The medical record must indicate that inpatient hospital care was medically necessary and provided at the appropriate level of care.

8.2. Invasive Procedure Review. The performance of unnecessary procedures may represent a quality and/or utilization problem.

8.3. Discharge Review. Records shall be reviewed using appropriate criteria for questionable discharges.

#### *Disease Management*

##### *Current wording:*

None.

##### *Future wording:*

*Solicitation No. MDA906-02-R-0006 Managed Care Support Services Amendment 0009. Section C Descriptions/Specifications/Work Statement*

7.7. The contractor shall operate a medical management program for all MHS eligible beneficiaries receiving care in the civilian sector, except as specified in Section C-7.7.1, that achieve the objectives of this contract. The contractor's medical management program must fully support the services available within the MTF.

7.7.1. The contractor shall operate programs designed to manage the health care of individuals with high-cost

conditions or with specific diseases for which proven clinical management programs exist.

*TRICARE OPERATIONS MANUAL 6010.51-M, AUGUST 1, 2002*

*CHAPTER 15, SECTION 3,*

9.0. The contractor shall report the performance of its medical management program (MMP) on a monthly basis to the appropriate MTF and Regional Office. The report shall include:

Number of patients, by Prime service area, in the medical management program, by medical management program component (e.g., case management, disease management, high cost, etc., based on the contractor's proposal).

Affect of the MMP on MTF optimization to include care/treatment required; source of care; cost-control; timeliness; integration of MTF and purchased care services; access to clinical services; non-clinical services required and obtained, including funding source; and future requirements and treatment/funding sources.

*Case Management*

*Current wording:*

*MCSC OPERATIONS MANUAL 6010.49-M, MAR 2001*

6.0. The contractor shall establish an individual case management program for inpatient and outpatient care. The case management program shall be available to all

beneficiaries in the MHS region, both enrolled and non enrolled.

6.2. The contractor shall manage all cases identified for case management to ensure that a beneficiary's clinical needs are fulfilled at the most cost-effective, clinically appropriate setting. This shall include reducing length of stay, identifying and using less expensive care sites when clinically appropriate, decreasing readmissions, and locating and using all alternative sources of available funding.

6.4. The contractor's case managers shall be licensed RNs and/or licensed social workers who have a minimum of two years of case management experience.

*Future wording:*

*TRICARE OPERATIONS MANUAL 6010.51-M, AUGUST 1, 2002*

11.0. Case management shall not be accomplished for beneficiaries eligible for Medicare Part A and Enrolled in Medicare Part B unless it is specifically contracted for inside an individual MTF or if the individual is part of the Individual Case Management Program for Persons with Extraordinary Conditions (ICMP-PEC).

*Healthcare Finders*

*Current wording:*

*MCSC OPERATIONS MANUAL 6010.49-M, MAR 2001 CHAPTER 7 SECTION 2*

1.0 The Health Care Finders shall inform beneficiaries of access mechanisms, referral procedures, and rules regarding use of providers. They shall also improve patient continuity of care by establishing mechanisms to facilitate necessary consultations, follow-up appointments, and the sharing of medical records.

1.1 Health Care Finders who perform the first level review functions as part of the authorization process for medical and surgical referrals shall be qualified physicians, registered nurses or physician assistants.

1.2 The contractor, using Health Care Finders and PCMs, is responsible for coordinating referral functions for all Military Health System (MHS) beneficiaries.

*Future wording:*

*Solicitation No. MDA906-02-R-0006 Managed Care Support Services  
Amendment 0009. Section C Descriptions/Specifications/Work  
Statement*

7.18. The Contractor shall provide assistance in accessing information about other Department of Defense programs and applicable community/state/federal health care and related resources for all MHS eligible beneficiaries who require benefits and services beyond TRICARE. This function shall be referred to as Health Care Finder Services.

*TRICARE OPERATIONS MANUAL 6010.51-M, AUGUST 1, 2002 CHAPTER 15,  
SECTION 5*

5.0 The contractor shall provide summary reports which distinguish between enrolled and nonenrolled populations for health care finders and beneficiary satisfaction. Within ten calendar days following the end of each contract quarter, submit to the Contracting Officer and the Regional Director a Health Care Finder activity report by MTF and a summary report by state. The reports shall include:

the number of referrals for TRICARE Prime, TRICARE Extra, and TRICARE Standard beneficiaries (by enrolled and nonenrolled populations) and for non-TRICARE eligible beneficiaries (by beneficiary category, i.e., Medicare eligible, active duty family member, parent, etc.); the source and reason for referral; the provider type to whom the beneficiary was referred; and the number of authorizations by medical/surgery and mental health services and by both inpatient and outpatient services.

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